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ENVIRONMENTALLY FRIENDLY METHOD FOR FREEZING RASPBERRIES AND BLUEBERRIES USING LIQUID NITROGEN

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Abstract

Considering the demands for reduction of fuel consumption involved in generation of electrical energy needed for classical refrigeration systems, this method uses for freezing liquid nitrogen obtained as secondary product at oxygen production. The resulted nitrogen gas is discharged in the environment, and, being chemically inert, it does not contribute to harmful chemical components generation. This paper presents some aspects concerning raspberries and blueberries freezing using liquid nitrogen: duration of the process, freezing capacity, advantages and disadvantages of this modern method. Quick freezing of food products in a cryogenic freezer consist in the use of the latent heat of evaporation of the liquid nitrogen, as well as of the sensible heat of the vapors, whose temperature increase up to final temperature of the frozen product. The use of cryogenic freezing with liquid nitrogen and carbon-dioxide is regarded as the “century’s revolution” in the food area.

Key words: berries, freezing, food preservation, nitrogen

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